

Claims

We claim:

1. A fuel cell assembly comprising:
 - a bipolar separator plate having a first side and a second side;
 - a membrane electrode assembly attached to said first side;
 - independently-acting compliant members attached to said second side; and
 - a conductive laminar electrical contact attached to said independently acting compliant members.
2. The fuel cell assembly according to claim 1, additionally comprising apertures in said conductive laminar electrical contact.
3. The fuel cell assembly according to claim 2, additionally comprising a second conductive laminar electrical contact attached to said independently acting compliant members.
4. The fuel cell assembly according to claim 3, additionally comprising a third laminar electrical contact between attached to said independently acting compliant members.
5. The fuel cell assembly according to claim 2 wherein said independently acting compliant members comprise springs.
6. The fuel cell assembly according to claim 5, wherein said laminar electrical contacts are formed into an array having a length, wherein said membrane electrode assembly has a length, and wherein said length of said array is approximately equal to said length of said membrane electrode assembly.
7. The fuel cell assembly according to claim 5 wherein said laminar electrical contacts are formed into an array having a width, wherein said membrane electrode assembly has a width, and wherein said width of said array is approximately equal to said width of said membrane electrode assembly.

8. The fuel cell assembly according to claim 6 wherein said laminar electrical contacts are formed into an array having a width, wherein said membrane electrode assembly has a width, and wherein said width of said array is approximately equal to said width of said membrane electrode assembly.

9. A fuel cell stack comprised of a first assembly according to claim 1 and a second assembly according to claim 1, wherein the laminar electrical contact of said first assembly is in electrical contact with the membrane electrode assembly of said second assembly.

10. A laminar electrical contact for maintaining electrical contact between independently acting compliant members and a membrane electrode assembly in a fuel cell stack.

11. The laminar electrical contact according to claim 10, wherein said independently-acting compliant members are springs.

12. A method for maintaining electrical contact between a bipolar separator plate and a membrane electrode assembly in a fuel cell stack comprising placing independently acting compliant members and a laminar electrical contact between said bipolar separator plate and said membrane electrode assembly.

13. A fuel cell module comprising:

- a bipolar separator plate with a first side and a second side;
- a membrane electrode assembly attached to said first side;
- flexible means for making electrical contact attached to said second side; and
- a laminar electrical contact attached to said flexible means.

14. The fuel cell module according to claim 13, additionally comprising a second laminar electrical contact attached to said flexible means.

15. The fuel cell module according to claim 14, additionally comprising a third laminar electrical contact attached to said flexible means.

16. The fuel cell module according to claim 13, additionally comprising apertures in each of said laminar electrical contacts.

17. A fuel cell stack comprised of a first module according to claim 13, and a second module according to claim 13, wherein the laminar electrical contact of said first module is pressed by said flexible means into electrical contact with the membrane electrode assembly of said second module.

18. A fuel cell stack comprised of a first module according to claim 14, and a second module according to claim 14, wherein the laminar electrical contacts of said first module are pressed by said flexible means into electrical contact with the membrane electrode assembly of said second module.

19. A fuel cell stack comprised of a first module according to claim 15, and a second module according to claim 16, wherein the laminar electrical contacts of said first module are pressed by said flexible means into electrical contact with the membrane electrode assembly of said second module.

20. A fuel cell stack comprised of a first module according to claim 16, and a second module according to claim 16, wherein the laminar electrical contacts of said first module are pressed by said flexible means into electrical contact with the membrane electrode assembly of said second module.

21. A bipolar separator plate assembly for use in a fuel cell, comprising:
a bipolar separator plate;
independently acting compliant members attached to said bipolar separator plate; and
a laminar electrical contact attached to said independently acting compliant members.